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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/607,870	06/27/2003	Kentin L. Alford	BA4-158	7089

21567 7590 07/26/2006

WELLS ST. JOHN P.S.  
601 W. FIRST AVENUE, SUITE 1300  
SPOKANE, WA 99201

EXAMINER

JOLLEY, KIRSTEN

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 07/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/607,870

Applicant(s)

ALFORD ET AL.

Examiner

Kirsten C. Jolley

Art Unit

1762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 5/9/06.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-18,30,32-42,57 and 58 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,3-7,9-18,30,32-38 and 40-42 is/are allowed.
- 6) ☒ Claim(s) 8 and 39 is/are rejected.
- 7) ☒ Claim(s) 57 and 58 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendments/Arguments***

1. The rejection of claims 1, 3-7, 14-18, 30, and 32-38 over Fukushima et al. have been withdrawn in response to Applicant's amendments to the claims, and are allowable as indicated below.
2. Claims 9-13 and 40-42 previously withdrawn from consideration due to the election of species requirement have been indicated as allowed because they depend from the allowable generic claims 1 and 30.
3. The objection to the specification has been withdrawn in response to Applicant's amendments.
4. Applicant's arguments filed May 9, 2006 have been considered. Applicant states that there is no teaching within Fukushima for forming a monolayer across a glass fiber surface and then incorporating the glass fiber into a fiberglass matrix by bonding such monolayer within a polymeric material. Applicant's arguments are persuasive, and therefore the rejection over Fukushima et al. alone has been withdrawn. However, upon further search and consideration, a new ground(s) of rejection is made over the newly cited prior art of Mankell et al. taken in view of Fukushima et al. as set forth below. Accordingly this action is made non-final.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 8 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mankell et al. (US 2002/0127399) in view of Fukushima et al. (US 2002/0197879).

Mankell et al. discloses a method of providing a glass fiber having a surface, and coating the glass fiber with a compound containing functionalized silicon including an organic group covalently attached with the silicon. Mankell et al. teaches that the coating compound is preferably an alkyl silyl halide (paragraph [0015]). Mankell et al. further teaches that the coating compound may be applied to the glass fiber prior to the addition of binder to the fiberglass during the formation of fiberglass batts (paragraph [0018]). While Mankell et al. does not specifically state that the coating compound is applied as a monolayer, it is noted that the bonding mechanisms taught by Mankell et al. in paragraph [0015] are similar to those used in monolayers -- namely, a compound with a first group that has functionality capable of interacting with the Si or OH groups on the fiberglass substrate, and another functional group (at the opposite end) having hydrophobic properties, thus providing hydrophobic properties to the coated substrate.

Mankell et al. lacks a teaching of exposing the glass fiber surface under a pressure of at least 30 psi. The prior art of Fukushima et al. is cited for its teaching of an improved method for forming a monolayer of functionalized silicon including an organic group on a substrate surface. Fukushima et al.'s method comprises exposing the substrate surface to a silane precursor using compressed carbon dioxide as a solvent under a pressure of 1500 psi in Example 3, the precursor interacting with the substrate to form the monolayer across the surface of the substrate.

Art Unit: 1762

Fukushima et al. teaches that its process is useful on glass substrates (paragraph [0020]), and results in an inexpensive, non-toxic and non-flammable process which facilitates formation of monolayers having good quality and surface integrity (paragraphs [0012]-[0013]). It would have been obvious for one having ordinary skill in the art, seeing the references of Mankell et al. and Fukushima et al. in combination, to have used compressed carbon dioxide as the solvent for applying the functionalized silicon compound on fiberglass fibers in the process of Mankell et al. with the expectation of improved quality and integrity of the coating, and because it is an inexpensive, non-toxic, non-flammable application process. Further, one having ordinary skill in the art would have expected successful results since Mankell et al. is not limited to the application method used and teaches that the coating composition can be applied in a suitable carrier (paragraph [0018]), as well because Mankell et al. and Fukushima et al. similarly teach coating of alkyl halyl silanes on glass substrates.

#### ***Allowable Subject Matter***

7. Claims 1, 3-7, 9-18, 30, 32-38, and 40-42 are allowed for the reasons discussed in the prior Office action.
8. Claims 57 and 58 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***


Art Unit: 1762

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kirsten C. Jolley whose telephone number is 571-272-1421. The examiner can normally be reached on Monday to Wednesday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Kirsten C Jolley  
Primary Examiner  
Art Unit 1762

kcj